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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,265	06/26/2006	Taro Yamamoto	292993US26PCT	5656
22850	7590	09/17/2010	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			KOCH, GEORGE R	
			ART UNIT	PAPER NUMBER
			1791	
			NOTIFICATION DATE	DELIVERY MODE
			09/17/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/584,265	<b>Applicant(s)</b> YAMAMOTO ET AL.	
	<b>Examiner</b> George R. Koch III	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 11, 12, 17-29 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) 17-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33 and 34 is/are allowed.
- 6) ☒ Claim(s) 26-29 and 35 is/are rejected.
- 7) ☒ Claim(s) 1-7, 11, 12, 31-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7, 11, 12, and 31-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 1 recites the limitation "the damper rode" in line 32 (the second to last line). There is insufficient antecedent basis for this limitation in the claim. It appears that applicant intended to recite --the damper rod--, and inadvertently misspelled rod as rode.

4. Claim 1 recites "a damper rod provided within the ejection port at *location* such that"... It is somewhat unclear what "at location such that" means. It is suggested that applicant utilize the more clearer --at a location such that--.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 35 and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuyama (US 2001/0009452).

As to claim 35, Matsuyama discloses developing apparatus (Figure 10) comprising: a substrate holding unit (61) for holding a substrate in a substantially horizontal attitude, the substrate *capable of* having an exposed resist thereon; a developer supply nozzle (Figure 13 and 14, side 111) for delivering a developing solution to the substrate, the developer supply nozzle having therein an ejection port that has a length substantially equal to or larger than a width of an effective area of the substrate (see Figure 10; see also paragraph 0066 discussing similar embodiments and disclosing that the nozzle is longer than the diameter of the wafer; see also paragraph 99 disclosing the length is larger than the diameter of the wafer W); a diluent supply nozzle (Figure 13 and 14, side 112) for delivering a diluent to the substrate, the diluent supply nozzle having therein an ejection port that has a length substantially equal to or larger than the width of the effective area of the substrate (see Figure 10) ; means for controlling temperature (temperature control tube S) of the developing solution to be supplied from the developer supply nozzle according to a type of the resist on the substrate or a specific geometrical characteristic of a pattern of the resist; a drive mechanism (paragraph 0068 disclosing a motor for driving the arm) for moving the developer supply nozzle and the diluent supply nozzle from one end of the substrate to the opposite end of the substrate; and means for controlling<sup>1</sup> initiation timing of delivering of diluent (paragraph 0099 discloses a controlling unit 131). The means for controlling is capable of being used for controlling operation of the diluent supply nozzle such that the deliver of diluent initiate when the developing solution is deteriorated due to progression

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of developing reaction after supplying of the developing solution so that a developing reaction rate is lowered.

Applicant's means for controlling temperature in the specification is disclosed in numerous sections as being a temperature control tube. Applicant's means for controlling initiation timing of delivering is a control unit and memory for storing relationships. Matsuyama discloses generic structure for delivering and is considered capable of being used as claimed. Furthermore, in paragraph 0084, Matsuyama discloses several sensors which can be used for opening and closing shutters, and these elements read on the means for controlling based on deteriorating.

Applicant notes that Matsuyama first provides developer, then provides developer and pure water simultaneously, and the ratio changes over. See remarks, page 14, citing to paragraphs 0100-0101 of Matsuyama. This function appears to being the same as the function that the claimed means for controlling provides, and thus provides support for Matsuyama reading on the claim limitation.

As to claims 26-29, Matsuyama is capable of being used to achieve the claimed temperature ranges. See MPEP 2114 and 2115.

With respect to claim 26, Matsuyama discloses that the means for controlling initiation timing functions to supply diluent 20 seconds or less after the developing solution is supplied. Matsuyama explicitly discloses supplying the two simultaneously, and then gradually phasing out the developer until only diluent (i.e., pure water) is being supplied. This reads on the

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<sup>1</sup> Means for controlling initiation timing invokes 112 6th paragraph. It complies with the 3 prong test of MPEP 2181.

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limitation of claim 26. With respect to claim 27-29, Matsuyama is capable of operation in the claimed temperature ranges.

*Allowable Subject Matter*

7. Claims 33-34 are allowed.

8. The following is an examiner's statement of reasons for allowance: Applicant's amendments and remarks filed 6/21/2010 are persuasive with respect to these claims.

Independent claim 1, from which claims 2-7, 11, 12, and 31-32 depend, now claims "a damper rod provided within the ejection port at location such that the developer fed into the ejection port via the communication passage collides with the damper rod, and said second temperature regulating device is disposed in the damper rod". The prior art of record does not disclose this feature.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Claims 1-7, 11, 12, and 31-32 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

10. The following is a statement of reasons for the indication of allowable subject matter: Independent claim 33, from which claims 34 depend, now claims "a damper rod extending within the elongated ejection port at such a location that the process liquid fed into the ejection

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port via the communication passage collide with the damper rod; and a second temperature regulating device provided in the damper rod.”. The prior art of record does not disclose this feature.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the

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above TDD number. The examiner can also be reached by E-mail at [george.koch@uspto.gov](mailto:george.koch@uspto.gov) in accordance with MPEP 502.03. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George R. Koch III/  
Primary Examiner, Art Unit 1791

9/13/2010